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(11) **EP 1 710 222 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
25.10.2006 Bulletin 2006/43

(51) Int Cl.:
C07C 5/09 (2006.01) **C07C 11/04** (2006.01)
B01J 23/44 (2006.01) **B01J 8/02** (2006.01)

(43) Date of publication A2:
11.10.2006 Bulletin 2006/41

(21) Application number: **05007545.6**

(22) Date of filing: **06.04.2005**

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR**
Designated Extension States:
AL BA HR LV MK YU

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(54) **Method for selective hydrogenation of acetylene to ethylene**

(57) The present invention relates to a method for selective hydrogenation of acetylene to ethylene, comprising the steps of: i) introducing a feed comprising acetylene and hydrogen into a reactor containing a supported catalyst, wherein the reactor is a fixed bed reactor containing the supported catalyst additionally diluted with a

solid diluent, or the reactor being a wash coated reactor wherein the supported catalyst is coated on reactor walls; and ii) hydrogenating of acetylene to ethylene in the presence of the supported catalyst.

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EUROPEAN SEARCH REPORT

Application Number
EP 05 00 7545

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 03/106020 A (CHEVRON PHILLIPS CHEMICAL COMPANY LP) 24 December 2003 (2003-12-24) *the whole document; in particular, pages 2-4, 8, 11 and the examples* -----	1-22	INV. C07C5/09 C07C11/04 B01J23/44 B01J8/02
X	US 4 906 800 A (HENRY ET AL) 6 March 1990 (1990-03-06) *abstract; column 2, lines 45-68; column 3, last paragraph; column 4; the examples and the claims* -----	1-22	
X	US 6 350 717 B1 (FRENZEL ANDREA ET AL) 26 February 2002 (2002-02-26) *column 2, lines 37-67; columns 3-7 and the examples* -----	1-22	
X	US 4 128 595 A (MONTGOMERY ET AL) 5 December 1978 (1978-12-05) *abstract; column 1, lines 55-68; column 2 and the example* -----	1-22	
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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 18 September 2006	Examiner Goetz, Gerhard
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	

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EPO FORM 1503 03.82 (P04C01)



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EUROPEAN SEARCH REPORT

Application Number
EP 05 00 7545

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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
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Munich		18 September 2006	Goetz, Gerhard
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			

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EPO FORM 1503 03.82 (P04C01)



European Patent
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Application Number

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-22(part)

Method for selective hydrogenation of acetylene to ethylene in the presence of a supported catalyst additionally diluted with a solid diluent in a fixed bed reactor.

2. claims: 1-22(part)

Method for selective hydrogenation of acetylene to ethylene in the presence of a supported catalyst in a wash coated reactor wherein the supported catalyst is coated on reactor walls.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 05 00 7545

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

18-09-2006

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